

IN THE CLAIMS

1. (Currently Amended) Process for the production of primary aluminium by the electrolysis of Al<sub>2</sub>S<sub>3</sub>, using a ~~bath of molten salt, preferably~~ a bath of molten chloride salt[[,]] in which Al<sub>2</sub>S<sub>3</sub> is dissolved ~~characterized in that measures are taken, wherein the bath is substantially free from MgCl<sub>2</sub>, and wherein an additive comprising a fluoride compound is added to the bath to improve the electrical conductivity of the bath[, so as]~~ to enable an increase in the current density in the bath.
2. (Currently Amended) Process according to claim 1, wherein the additive consists essentially of the fluoride compound characterized in that the measures comprise adding an additive to the bath.
3. (Currently Amended) Process according to claim 2 ~~characterized in that~~ 1, wherein the additive mainly consists of ~~a~~ the fluoride compound.
4. (Currently Amended) Process according to claim 3 ~~characterized in that~~ 1, wherein the fluoride compound is cryolite.
5. (Currently Amended) Process according to claim 4 ~~characterized in that~~ , wherein the concentration of the cryolite is in the range of 5 to 30 wt%, ~~and preferably 7 to 15 wt%, and more preferably about 10 wt%~~.
6. (Currently Amended) Process according to ~~any of the preceding claims~~ characterized in that ~~the measures comprise enhancing~~ claim 1, wherein the effective area of an anode extending into the bath is enhanced by reducing the amount and/or size of gas bubbles covering the anode.

7. (Currently Amended) Process according to ~~any of the preceding claims~~  
~~characterized in that claim 1, wherein the bath of molten chloride salt mainly comprises alkali metal chlorides, preferably KCl and NaCl.~~

8. (Currently Amended) Process according to ~~any of the preceding claims~~  
~~characterized in that claim 1, wherein the bath of molten metal is substantially free of earth alkaline chlorides.~~

9. (Currently Amended) Process according to ~~any of the preceding claims~~  
~~characterized in that claim 1, wherein the electrolysis is carried out at a bath temperature of between 600 °C and 850 °C, preferably between 700 °C and 800 °C.~~

10. (Currently Amended) Process according to ~~any of the preceding claims~~  
~~characterized in that claim 1, wherein the electrolysis is carried out in a multi-polar electrolysis cell.~~

11. (New) Process according to claim 4, wherein the concentration of the cryolite is in the range 7 to 15 wt%.

12. (New) Process according to claim 4, wherein the concentration of the cryolite is about 10 wt%.

13. (New) Process according to claim 1, wherein the bath of molten chloride salt mainly comprises KCl and NaCl.

14. (New) Process according to claim 1, wherein the electrolysis is carried out at a bath temperature of between 700 °C and 800 °C.